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Literatura Inglesa

The Role of Vocabulary Knowledge in EFL Proficiency

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Resumen

Esta síntesis de investigación exploró la influencia de dos dimensiones del vocabulario: tamaño o amplitud (size) y calidad del conocimiento del vocabulario (depth) en la comprensión lectora, la calidad de la escritura, la fluidez del habla y la comprensión auditiva. Esto con el objetivo de obtener una mejor comprensión del rol que cumple el vocabulario como uno de los componentes principales en el dominio del inglés como idioma extranjero. Para este fin, el presente estudio seleccionó 15 estudios, en los que se analizó en qué medida las dos dimensiones del vocabulario influyen en el desempeño del estudiante en las cuatro habilidades principales: lectura, comprensión oral, expresión oral y expresión escrita.

Únicamente estudios que analizaron las dos dimensiones en el idioma inglés como idioma extranjero, y fueron publicados a partir del año 2000 fueron seleccionados. Los resultados revelan que (1) las dos dimensiones contribuyen en gran medida al desempeño de los estudiantes en las cuatro habilidades en cualquier nivel, (2) la influencia ejercida de las dos dimensiones es particular de cada una, por tanto las dos y no solo una, se consideran indispensables para el dominio del inglés y (3) se debe hacer énfasis en el aprendizaje de vocabulario en las aulas de inglés, especialmente en aspectos tales como (a) la enseñanza de vocabulario de uso frecuente y (b) el aprendizaje de las palabras de forma multidimensional.

Palabras clave: Vocabulario. Inglés como Lengua Extranjera. Dominio del Inglés. Amplitud y Calidad del Vocabulario. Segunda Lengua.

Abstract

This research synthesis explored the role of vocabulary size/breadth, and depth/quality of vocabulary knowledge in reading comprehension, writing quality, speaking fluency and listening comprehension. The aim of this study was to analyze to what extent vocabulary size and depth influence EFL learners' performance in the four macro skills in order to get a better understanding of the role of vocabulary knowledge as one of the main components of English proficiency. For this purpose, 15 empirical studies published since 2000 and that analyzed the two dimensions in English as foreign language were selected. This paper thus covers recent developments from a wide range of perspectives focusing on proficiency level and L1 background.

Findings revealed that (1) vocabulary breadth and depth contribute strongly to EFL learners' performance at any proficiency level, (2) both the impact of breadth and depth on EFL proficiency are distinctive on each skill and key in language performance, and (3) emphasis should be placed on vocabulary acquisition in EFL classrooms, particularly on aspects such as (a) teaching and learning high frequency words and (b) word learning quality.

Key words: Vocabulary Knowledge. English as a Foreign Language. EFL Proficiency.

Vocabulary Breadth/size. Depth/Quality of vocabulary Knowledge. Second Language.



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Dedication

To God, my mother, and my brother.

Introduction

Vocabulary Knowledge (VK) is generally understood as the knowledge and use of words and word meanings (Stahl, 2005), but if looked deeply, this concept reveals a much more complex nature and has significantly more relevance (Baleghizadeh & Khaledian, 2016). Over recent years, it has been upgraded as a fundamental component of language proficiency in L2 language acquisition (Vermeer, 2001). It is considered key in communicative competence and the link which connects the four skills (Farvardin & Valipouri, 2017). Some researchers (Milton, 2013; Meara, 1996; Schmit, 2014) have divided VK into two important dimensions such as breadth/size and depth. This study will focus on these two aspects of vocabulary knowledge as the underlying components of EFL learners' performance in the four macro English skills and how this relation influences their proficiency. To date, research has found depth and breadth of vocabulary knowledge to be good predictors of reading, listening, writing and speaking (Quinn, Wagner, Petscher, & Lopez, 2015; Johnson, Acevedo, & Mercado, 2016; Hilton, 2008).

For this reason, this study has attempted to ascertain and examine the effects that breadth and depth of vocabulary knowledge have in the four major English skills and to what extent this relation influences EFL proficiency.

In particular, the study explores the following research questions: a) What is the reported impact of vocabulary knowledge on the four English skills? b) What are the reported aspects regarding EFL proficiency that vocabulary knowledge influences? and c) What are the reported pedagogical implications that might contribute to vocabulary teaching and learning in an EFL classroom?

The report of this study is structured in the following chapters:

Chapter I. In this chapter, the research topic is described through its background, problem statement, rationale and research questions.

Chapter II. This chapter involves the theoretical framework of the study, which covers key definitions such as L2 vocabulary acquisition and its main differences to L1 vocabulary acquisition, English as foreign language and as Lingua Franca, etc. The purpose of this chapter is to provide the study with scientific and bibliographical support.

Chapter III. This chapter comprises the literature review from the 15 primary research studies selected for this paper.

Chapter IV. The methodology is covered in detail in this chapter. The description comprises an explanation of the study's approach and the selected criteria.

Chapter V. This chapter displays the analysis and interpretation of primary studies.

Chapter VI. Conclusions and recommendations.



CHAPTER I

Description of the research

1.1 Background

Vocabulary knowledge is the groundwork to the upcoming building of language knowledge in second or foreign language (Stæhr, 2008). To date, VK has been studied as a significant element for language development and proficiency in the field of teaching and learning English as a foreign language (Uchihara & Clenton, 2018).

In their attempt to comprehend and to define VK, researchers (Masrai & Milton, 2018; Schmitt, 2014; Nemati, 2010; Laufer & Goldstein, 2004) have divided it into different dimensions. Nemati (2010) describes some of them: size and depth, receptive and productive or passive and active. Therefore, knowing a word implies more than only knowing its meaning but being familiar with several aspects of it. For instance, the spoken form, written form, grammatical pattern, collocation, frequency, appropriateness, concept and associations (Nation, 1990, as cited in Nemati, 2010, p.31).

For years, vocabulary size was considered the main dimension of VK (Meara, 1996). Nowadays, research has primarily focused on the role of vocabulary size and depth in the four macro English skills: writing, speaking, listening and reading (Stæhr, 2008; Zhong, 2018; Uchihara & Saito, 2019; Van Zeeland & Schmitt, 2013; Quinn et al., 2015) and as a result, both have been found to be good predictors of reading comprehension (Quinn et al., 2015), to correlate well with writing quality (Johnson et al., 2016) and both are mentioned as important components of fluency in speech (Hilton, 2008).

As Staehr (2009) states, “vocabulary knowledge is a reliable predictor of learners’ proficiency in a second or foreign language” (p. 577) and also Laufer (1998) claims that “learners themselves associate progress in language learning with an increase in the number

of words they know” (p. 256). Therefore, the motivation for this study emerges from the need for bulding on these premises.

1.2 Problem statement

Limited vocabulary in second language acquisition impedes successful communication (Alqahtani, 2015). Vocabulary learning is an essential part in foreign language learning, and it is also central to language teaching (Alqahtani, 2015).

However, the English language learning process in EFL contexts is often carried out through the development of the main four language skills: speaking, writing, reading and listening, and vocabulary acquisition is an implied part in the process of learning the new language (Ataş, 2018).

In a study with EFL Turkish learners, Ataş (2018) states that vocabulary teaching is neglected in EFL classrooms with few exercises based in textbooks often provided by the Ministry of National Education, which offer limited exposure to various aspects of vocabulary knowledge and no opportunities for learning authentic vocabulary. Furthermore, Ataş (2018) also believes that “a broader and more comprehensive way of teaching vocabulary needs to be developed to expand learners’ vocabulary knowledge in EFL classrooms” (p.10).

In the same sense, Nemati (2010) also states that due to this lack of emphasis on vocabulary acquisition in EFL classrooms, EFL learners’ language proficiency diminishes, and this is evident in students at higher levels of instruction who have acquired a wide range of vocabulary knowledge, but somehow this fact appears to be an aspect of improvement instead of a proof of proficiency.

Moreover, in countries where English is learned as a foreign language and the exposure to it is little, the acquisition of vocabulary in classrooms determines the learner’s proficiency of the language (Alqahtani, 2015). Therefore, research upon this issue is

important because data will shed light on the impact that vocabulary knowledge has in the development of language competence and how this is a determining factor to measure language proficiency.

1.3 Rationale

The role of vocabulary knowledge denotes importance in a foreign language learning process (Hilton, 2008). Several different and important aspects of EFL learners, EFL classrooms and EFL teachers regarding vocabulary knowledge have been addressed in research (Cami3n, 2005) and some authors have addressed the evident role of vocabulary knowledge in EFL learners' performance of the four English micro skills (Atař, 2018). Numerous studies have reported the influence of vocabulary in the developing growth of language competence (Vermeer, 2001; Stahl, 2005; Milton, 2013; Laufer, 1998, etc.).

Thus, the purpose of this study is to analyze the role of vocabulary knowledge in the development of all four English skills in order to have a broad perspective of how it affects EFL proficiency as a whole. This understanding is essential to raise foreign language learners' awareness, teachers and students and curriculum developers, of the importance of building consciously and carefully L2 vocabulary through suitable vocabulary training in EFL classrooms (Atař, 2018).



1.4 Research questions

This study analyzes 15 empirical research studies in order to give a detailed report of the relationship between breadth and depth of vocabulary knowledge and the four macro-English skills. The research questions that guide this study are the following:

1. What is the reported impact of vocabulary knowledge on the four English skills?
2. What are the reported aspects regarding EFL proficiency that vocabulary knowledge influences?
3. What are the reported pedagogical implications that might contribute to vocabulary teaching and learning in an EFL classroom?



CHAPTER II

Theoretical framework

2.1 Second language acquisition and English as foreign language

Acquiring a new language besides the first one (L1) is called second language acquisition (SLA) and it is the process that encompasses how and to what extent the second language (L2) is learned (Ma, 2009). L2 can be referred as second or foreign language according to the role it plays in the language learners' daily life (Saville-Troike & Barto, 2005). It is referred as second language when it is the official language and it is learned by a minority group members or immigrants who speak another language natively, and it is called foreign language when it is acquired in the learner's own environment and it is "not widely used in the learners' immediate social context" (Saville-Troike & Barto, 2005, p. 4). For instance, an Ecuadorian learning English in his own country. Foreign language learning usually takes place in a formal educational setting and there is little contact with the people or the culture (Ma, 2009).

The purpose of foreign language acquisition is usually to provide learners with the necessary tools to cross cultural communication, and English has proved to be the way for international communication around the world (Saville-Troike & Barto, 2005). Facts such as the legacy of the British empire, the current dominance of USA, the development of English alongside technology have turned English into the key to the world (Maxom, 2009; Broughton et al., 2003) or also called the lingua franca of the world (Seidlhofer, 2005). In consequence, English is the most widely learned language (Maxom, 2009) among speakers with different first languages (Seidlhofer, 2005).

2.2 Vocabulary knowledge

Researchers claim that understanding and defining a word is a hard task. “A feature of understanding vocabulary, whether in a first or foreign language, is that knowledge of this aspect of language is multi-faceted. Potentially, there is a lot involved in knowing a word” (Milton, 2013, p. 58). Therefore, it has been impossible for researchers to agree on setting a framework to define vocabulary knowledge (Milton, 2013; Vermeer, 2001). However, researchers are continually updating information in the field and some new insights have been updated. Terms such as lexical knowledge, lexical competence, vocabulary knowledge framework or vocabulary knowledge scale are now being used to describe vocabulary knowledge in a more broad and complete way (Ma, 2009).

This theoretical development on vocabulary has contributed to the comprehension of the lineal relationship between word and meaning. Today, the notion of knowing a word is considered the mastering of three main dimensions: meaning, form, and use (Ma, 2009; Milton, 2013). As Stahl (2005) claims, “the knowledge of a word not only implies a definition, but it also implies how that word fits into the world” (p. 95).

Nation’s approach is considered the closest to a complete description of knowing a word (Milton, 2013). In this list, the three main dimensions (form, use and meaning) are explained through well described subdimensions such as affixation, conceptualization, associations of meaning, and word behavior in relation to each other, in combination and in specific environments whose mastering, as Nation claims, is compulsory in word competence (Nation, 2001, as cited in Milton, 2013). Further, Milton (2013) also explains that, “each dimension encompasses a range of separate elements which are linked in some way to form a single, larger entity” (p.60). Ultimately, this whole entity has the communicative power that allows learners to express what they want (Scrivener, 2011; Lightbown & Spada, 2013; Llach, 2011).

2.3 Size and depth of vocabulary knowledge

To date, due to the lack of agreement to define vocabulary knowledge (Milton, 2013), researchers have proposed several dimensions to understanding the whole framework. Four dimensions of vocabulary knowledge have been widely mentioned: depth and breadth and receptive and productive (Ma, 2009). So far, breadth and depth are the most empirically studied, and they are considered the main components to predict EFL proficiency (Dabbagh, 2016; Llach, 2011; Ma, 2009; Maxom, 2009; Meara, 1996). This is the reason why this study only focuses on these two. Weixia (2014) defines breadth or size of vocabulary knowledge as the number of words a learner has at least some minimum knowledge of meaning, whereas depth as the learner's level of knowledge of various aspects of the word.

These two dimensions have been contrasted and sometimes considered as one (Milton, 2013). Vermeer (2001) claimed that there is not a clear distinction between depth and breadth, and that they should be regarded as a continuum instead of a dichotomy. Similarly, Ma (2009) describes, "the greater one's vocabulary, the deeper one's vocabulary knowledge or vice versa" (p. 38). However, empirical studies show discrepancy regarding this issue (Şen & Kulelia, 2015; Stæhr, 2009; Koizumi & In'nami, 2013; Farvardin & Valipouri, 2017) since some studies consider breadth as an independent construct and in like manner depth. Ma (2009) supports that the lack of standard tests to measure breadth and depth is the major contributing factor to this ambiguity.

Milton (2013) advocates for the difficulty of designing a test that can encompass every aspect of knowledge involved in a word. The author claims that an adequate measurement and assessment demands this diversity to be precisely defined. Therefore, until it is defined, it cannot be measured appropriately. Nevertheless, even though sometimes it is difficult to make distinctions as well as measurements, learners' vocabulary knowledge needs

to be assessed in order to decide how large their vocabulary is, how well it is known and whether knowledge can be recognized and/or produced (Ma, 2009).

2.4 Vocabulary acquisition in L2

L2 vocabulary acquisition is usually a reflection of the L1 as both follow comparable ways (Trawiński, 2005). According to Anderson's *Adaptive Control of Thought* (ACT) theory, L2 language, as any other cognitive representation, is acquired in two forms: declarative knowledge, which refers to the knowledge of the word, and procedural knowledge, which concerns the skill or performance of activities (as cited in Ma, 2009, p.31). Anderson claims, that language is learned primarily in chunks (declarative) and that, eventually, these elements, through practice, become procedural forms until they can be retrieved easily, automatically without any conscious effort on the part of the memory (as cited in Ma, 2009, p.32).

In a similar way, L2 vocabulary knowledge follows the same process, although in this case, it often remains as declarative knowledge due to the relative lack of input or output exposure (Ma, 2009). According to Llach (2011), "the process of L2 vocabulary knowledge begins as soon as L2 is encountered and continues long after other aspects of L2 are mastered" (p. 3). Vocabulary is not a skill that can ever be seen as fully mastered because its expansion and elaboration extend across a lifetime (Hiebert & Kamil, 2005).

In a setting where English is learned as a foreign language, learners are exposed to far few language samples, perhaps only few hours a week, contrary to first language learners who spend thousands of hours in contact with the language (Lightbown & Spada, 2013). It is this difference that shapes the route and the rate of vocabulary acquisition (Llach, 2011).

2.5 Vocabulary Learning in EFL classrooms

Scrivener (2011) states that in the EFL classroom, learner's most useful tool is lexis because they are able to communicate through the accumulative effect of single words. In countries where English is considered as a foreign language, English is generally taught in

educational institutions (Harmer, 2010) and language learning mostly occurs in the classroom between the interaction of the teacher (facilitator) and the learner (Broughton et al., 2003).

Therefore, teachers need to find meaningful ways to help EFL learners to improve their lexis acquisition because giving short definitions and examples of the word in the middle of a lesson does not place the word in the learner's long-term memory (Scrivener, 2011). According to Lightbown and Spada (2013), knowing a word in L2 means using the meaning of the word in an appropriate association to create structures, and for doing so, the key factor is frequency. If the word is seen, heard and understood in context enough times, it is easily stored in the long-term memory.

Nation (2005) states that learning a particular word is a cumulative process where “knowledge is built up over a series of varied meetings with the word” (p. 48). Thus, the more real encounters with the word, the faster the learner can learn and retrieve the word. However, teaching can provide only one or two of these meetings (Nation, 2005). “The main problem with vocabulary teaching is that only a few words and a small part of what is required to know of a word can be dealt at a time” (Nation, 2005, p. 253).

Effective vocabulary teaching refers to figuring out what needs to be taught about a word and what words should be taught (Şen & Kuleli, 2015). “Time should be spent on high frequency words or words that fill a language need the learners have” (Nation, 2005). Additional meetings with the word are entirely up to learner, and a great deal of vocabulary can be learnt with little intentional effort (Lightbown and Spada, 2013). Correspondingly, good instruction needs the methodology “to interact and to focus on meaning than on form of words” (Ma, 2009, p. 20).

2.6 Lexical competence and language proficiency

According to Ma (2009), language proficiency is a building made of a structure (grammar) and bricks(vocabulary) and “the more spacious and refined it appears, the greater



the level of language proficiency” (p.21). In other words, “lexical competence can be defined as one’s ability to use words differentially and fully” (Tanaka, 2012, p. 2). In its broadest sense, learners with sophisticated vocabulary profiles are more proficient in a wide range of language skills than learners with smaller vocabularies, as vocabulary is the element that links the four skills: speaking, listening, reading, and writing (Ataş, 2018).

As Alqahtani (2015) puts it, vocabulary is intrinsically linked to proficiency. English system assessments such as the University of Cambridge Local Examinations Syndicate (UCLES) and the Common European Framework of Reference for Languages (CEFR) use separate descriptors for each skill according to certain vocabulary profiles (Milton, 2013). Naturally, then, vocabulary knowledge will have a great influence on the student’s grade which ultimately will determine level of competence. So, it is not surprise that several studies have been conducted to understand the effects of vocabulary knowledge on these skills (Laufer, 1998; Nation, 1990; Schmitt, 2000; Webb, 2005).

Chapter III

Literature Review

Vocabulary knowledge in the four macro-English skills

Due to its intricate nature, vocabulary knowledge has been divided into several dimensions (Meara, 1996). The most common one is the distinction between size or breadth, which is defined as the number of known words, and depth or quality, defined as how well those words are known (Milton, 2013). This specific framework helps to narrow and focus the general view of vocabulary knowledge in order to understand better the relationship between its nature and the language acquisition process. Therefore, it is through the analysis of the influence of these two dimensions upon the four English skills, that a clearer vision of the importance of vocabulary knowledge over language proficiency can be described.

3.1 Vocabulary knowledge and listening comprehension

Main listening problems in EFL learning are due to the lack of vocabulary knowledge (Goh, 2000, as cited in Farvardin, 2017, p.274). Up to date, studies show that both depth and breadth are highly correlated with listening comprehension and that they can predict the participants' performance (Teng, 2016; Stæhr, 2009; Wexia, 2014). However, whether size or depth is the better predictor and the main component of listening comprehension still remains unclear.

Farvardin (2017) conducted an empirical study to investigate to what extent vocabulary breadth and depth can predict listening comprehension performance in lower-intermediate EFL learners (determined through Oxford Placement Test) and which of both dimensions is the best predictor of listening comprehension scores. To this purpose, eighty Iranian EFL students were given three tests, Vocabulary Level Test (VLT) to measure vocabulary size, Word Associates Test (WAT) to measure depth and in order to measure

listening comprehension, material from the Longman TOEFL PBT was selected. The results showed that both dimensions were significantly correlated with listening comprehension but depth was slightly higher correlated. In regards to the best predictor of listening comprehension scores, it was found that size and depth of vocabulary knowledge together account for 41% of the variance in the listening scores. Consequently, depth of vocabulary was the stronger predictor with 0.28% of the LCT variance alone. Therefore, the author concluded that depth is the basic component of vocabulary knowledge in listening comprehension of lower-intermediate learners.

In the same line, Stæhr (2009) carried out a study with one hundred fifteen advanced Danish EFL learners to analyze to what extent vocabulary size and depth of vocabulary knowledge are associated with listening comprehension and how much of lexical coverage for an adequate listening comprehension is needed.

All the participants took three paper-and-pencil tests: LCT (listening measure) from the Cambridge certificate of proficiency in English (CPE) designed for the C2 level, VLT (breadth measure), and DVKT (depth measure). The results showed that depth and breadth are equally correlated with listening comprehension with no statistical difference between the two as they together could predict 51% of the variance in the listening scores. Moreover, a multiple regression analysis showed that size is the basic component of vocabulary knowledge in listening comprehension because depth adds very little (2%) to the variance already accounted for by vocabulary size. The author also asserted that a vocabulary size of 5000-word families might be a useful learning target for advanced learners. Therefore, especial emphasis should be placed on activities to expand learners' vocabulary size in EFL classrooms.

In China, Wang (2015) also analyzed the role of vocabulary breadth and depth on listening comprehension at different levels so as to provide pedagogical implication for



vocabulary teaching. To this purpose, one hundred twenty non-English majors from a medical university took three pen-and-paper tests: vocabulary levels test for breath, productive levels test for depth and the listening comprehension test. The results showed that, the effect of vocabulary depth was significantly greater than that of vocabulary breadth in listening scores. The author also found that vocabulary breath has enhancing effects on students' listening scores at high level more than on those at lower and middle; while vocabulary depth shows no significant effect in the scores in any level. Based on this results, Wang (2015) concluded that vocabulary should be taught in classroom in a way that does not imply just the memorization of the meaning of the words (lean on depth) and that the teaching of breadth of vocabulary should be strengthened by increasing learners' reading quantity as the students' English level develops.

In another study, Teng (2016) assessed the role of breadth and depth of vocabulary knowledge in academic listening comprehension on eighty-eight Chinese upper-intermediate EFL students. To collect data, three paper-pencil tests were administered; VST (size measure), WAT (depth measure) and a listening comprehension test from the IELTS which included two versions: academic English and general English. The findings yielded that both dimensions are equally and positively correlated to academic listening comprehension and that depth of vocabulary knowledge is better in predicting success in academic listening comprehension. Teng (2016) also concluded that having a receptive vocabulary size of 40000 means a 98% of lexical coverage for a spoken text and that it facilitates a comprehension of the 66.4%. Therefore, the author concluded that although a large lexical coverage could facilitate learner's listening comprehension, this did not ensure an adequate level of comprehension. In fact, vocabulary size needed for adequate comprehension are likely to vary according to the type of spoken texts.

Besides, in Iran, Baleghizadeh and Khaledian (2016) also exposed the predominance of size of vocabulary knowledge over depth in successful listening comprehension. Moreover, this study analyzed the extent of the contribution of size and depth to performance in listening comprehension across high and low listening ability groups. To do so, 117 junior students majoring in English Language and Literature were divided into two groups according to their score from TOEFL listening comprehension test. Participants above standard deviation (93) were assigned to the high-level group, and those below standard deviation (23) to the low-level group. To assess depth and breadth of vocabulary, WAT and VLT were used respectively. Regarding the relationship between the two variables and listening comprehension, the authors found that students' large vocabulary size was the vital role in comprehending spoken text and also that those students are more likely to have a good level of in-depth of vocabulary, as well. They also found that there was a stronger relationship among variables of the study in high proficiency group than the low proficiency group.

This relationship was even stronger between size of vocabulary and listening comprehension than it is between depth of vocabulary and listening comprehension. Therefore, as being size the main component for successful listening comprehension in both groups, the authors concluded that an extended exposure to receptive input such as extensive listening and reading could improve learners' vocabulary size and that emphasis should be placed on teaching high frequency vocabularies in class.

Dabbagh (2016) also carried out a study in listening comprehension in order to analyze the predictive role of vocabulary breadth and depth in listening scores and to examine whether depth of vocabulary knowledge could predict scores of vocabulary breath. Moreover, the study also examined to what extent the scores of L2 learners at different levels of Vocabulary Levels Test (VLT) predict their L2 listening comprehension. According to the

Oxford Placement Test, the sample of seventy-three Iranian undergraduates were at an intermediate level. Participants also performed three tests, Word Associates Test (depth measure), Vocabulary Levels Test (breadth measure), and IELTS listening sub-test. Results revealed a very strong correlation coefficient between WAT and listening but not between VLT, and listening. Therefore, only depth of vocabulary offered a unique account in the prediction of listening comprehension test scores. However, four sub-sections of VLT, namely: 2K, 3K, 5K and 10K frequency levels, were considered as predictor variables to the listening comprehension scores. The results showed that only VLT scores from the 3K level could predict variance (5.3%) in the listening comprehension. Moreover, the author also found that the WAT scores could predict for about 22% of the variance within VLT scores. Consequently, the author concluded that a deep teaching of the words that might confuse learners should take place in the classroom as well as the usage of listening comprehension materials to teach depth of vocabulary knowledge (i.e. register, collocations).

3.2 Vocabulary knowledge and reading comprehension

Due to the well-established relationship between reading and vocabulary there is no doubt that reading and the vocabulary knowledge of EFL learners are directly related to each other (Şen & Kuleli, 2015). They are considered to be the bases to have a good level of comprehension of a written text (Kameli et al., 2013; Rashidi & Khosravi, 2010).

Şen and Kuleli (2015) studied the correlation between breadth and depth and reading comprehension in order to give a clear understanding of which of these two is the best predictor in EFL context. For collecting data, three hundred sixty-one participants of a School of Foreign Languages from different faculties (Tourism, Engineering, Forestry, and Business and Administration) took three tests: to measure size (VLT), to measure depth (WAT) and a reading performance test developed especially for this study by researchers. The authors concluded that due to the strong correlation between the two dimensions, both contributed



greatly in reading performance. Furthermore, they explain that as EFL learners' amount of vocabulary items increased, a deep knowledge of those items increased as well. Therefore, EFL teaching, no matter what the aims is, should focus on introducing the correct amount of vocabulary items as deeply as possible. This, as they suggest may be the backbone of EFL teaching. In addition, despite the overall view that the correlation between the two dimensions gave, the authors also found that depth adds a unique contribution to predicting reading performance and, therefore, it was the better predictor.

In the same line, Kameli, Mustapha and Alyami (2013) conducted a study to analyze the extent of the association between depth of vocabulary and reading performance. The convenience sampling of two hundred twenty Iranian adult language learners with an advanced English level were given the three tests, to assess breadth/size of vocabulary knowledge (VLT), the test to assess the depth/quality of vocabulary knowledge (WAT), and reading comprehension test (the academic reading section of IELTS). Kameli et al. (2013) found that due to the surprisingly statistically significant correlation between both depth/quality and breath/size, they should have been considered interdependent. Both highly contributed to reading performance and that one did not work without the other. Regarding to predicting reading comprehension, the authors found that size was a more efficient predictor because of its higher correlation with IELTS performance score. This result as they suggest, might have been due to the EFL learners' advanced English level, the received instruction (memorization of word lists) and the overlapping constructs of the two measures. Given the results of this study, the authors also pointed out that for this sample it was better to consider the two dimensions as important in the reading performance instead of just considering only one. Therefore, authors concluded that an advanced English Level Learner is rich in both size and depth of vocabulary.

Rashidi and Khosravi (2010) also analyzed the relationship of size and depth with reading comprehension in Iranian EFL learners. These authors carried out a study to examine if breadth of vocabulary knowledge outscored the prediction provided by size scores and also to find the difference between the reading comprehension scores of two groups as having high and low depth and breadth of vocabulary knowledge. After applying a language proficiency test thirty-eight candidates who score at intermediate level were chosen. The interrelations among the scores of the three tests, depth of vocabulary knowledge test (DVKT), vocabulary size test (VST) and reading comprehension test (RCT) proved the relevance of vocabulary knowledge because both dimensions respectively accounted over 50% of the variance in reading comprehension. However, depth as having a higher correlation coefficient with reading comprehension than size was considered a better predictor of reading comprehension performance.

Furthermore, according to their performance on DVK, participants were divided in two groups: high and low depth and breadth of vocabulary knowledge. Nineteen participants were considered as having a high depth of vocabulary and nineteen were considered as having a low depth of vocabulary and in relation to VS score; eighteen participants were considered a high group and twenty were considered as having a low vocabulary size. The authors concluded that participants' reading performance matched their depth and breadth of vocabulary knowledge. Thus, a good knowledge of high frequency words along with adequate additional vocabulary to read were necessary to understand efficiently.

In a similar way, in Finland, Harkio and Pietilä (2016) carried out a study to analyze the role of breadth and especially depth of vocabulary in the prediction and explanation of reading comprehension and how the results differed in two proficiency groups, intermediate and advanced. The sample, thirty-nine upper secondary school students (UPSEC) and nineteen university students (UNI), performed the three tests. The authors found out that both

breadth and depth correlated strongly with reading comprehension (breadth being the stronger) in the UPSEC group. However, in the UNI group, the percentage of variance provided by depth and breadth was significantly low. Based on the results, vocabulary breadth and depth seemed not to be good predictors of reading comprehension (depth being the weaker) in advanced levels of proficiency. The authors supported these results by claiming the clear difference in the testing instruments, advanced level learners' reading strategies and the sample size, being the UNI group smaller. Therefore, the authors concluded that at beginning and at developing stages of language competence vocabulary size and depth are good predictive and explanatory factors of reading comprehension.

3.3 Vocabulary knowledge and writing quality

Despite the increased interest in vocabulary breadth and depth in relation to the English language macro-skills, their role in writing has received relatively little attention (Dabbagha & Enayat, 2017). However, due to its influence in reading and listening, it is reasonable to assume that these vocabulary dimensions also play a significant role in writing quality (Dabbagha & Enayat, 2017). Few studies show that vocabulary breadth is the main component for writing and that low-frequency words are the strongest predictive factors for the variance in writing performance (Dabbagha & Enayat, 2017; Yuksel, 2015).

Dabbagha and Enayat (2017) carried out a study to analyzed the relation of vocabulary in its two dimensions in descriptive writing “since L2 writers need to be precise in this writing genre in order to help the readers imagine the described entity in detail” (Dabbagha & Enayat, 2017, p.3). Their study examined the separate roles, and the interaction, of vocabulary breadth and depth in predicting the overall assessment of an L2 descriptive writing task, and the scores allocated on the vocabulary component. To gather data, 67 intermediates Iranian EFL learners were recruited and performed two tests, vocabulary depth test (WAT), test of vocabulary breadth (VLT) and two writing tasks. The

results showed that breadth and depth of vocabulary together could not explain variance in learners' writing performance. However, breadth could predict significantly variance in the overall assessment scores of descriptive writing and also for vocabulary component. Therefore, breadth was the main component in descriptive writing performance. This study also found that the lower word-frequency bands (mid-frequency vocabulary and low-frequency vocabulary) were more associated with overall scores of effective descriptive writing than the high word-frequency band. Regarding writing quality, the authors concluded that it is strongly associated with breath of vocabulary and word-frequency levels and that teachers should provide students with vocabulary learning strategies in order for them to learn low-frequency words which generally are avoided in class and also direct instruction of mid- and low-frequency vocabulary should be incorporated into writing instruction for learners whose formal writing skills are being assessed.

Yuksel (2015) also analyzed the interaction between vocabulary knowledge and writing skills. To evaluate which dimension, depth, breadth or productive, was more effective in L2 writing quality, 40 Turkish EFL learners (upper-intermediate and advanced level) participated in the study. To collect data, four tests were administered, WAT (depth measure), VLT (breadth measure), TOEFL writing sub-tests and Vocabprofile (lexical use measure). Also, considering their vocabulary tests scores, the analysis of data showed that EFL learners in this study had a limited vocabulary size and depth knowledge. Besides, the productive vocabulary scores showed that participants mostly used high frequency words, thus their lexical range was also limited. Furthermore, regarding to writing performance, the three dimensions were put together as a common score for lexical competence.

The results showed that lexical competence (size, depth and productive) could predict the participants' writing proficiency and also participants' knowledge on these dimensions may have helped to improve their writing performance. Moreover, taken separately both size

and depth were also found to correlate well with writing performance, being depth a stronger predictor. However, taken as a whole, together size and depth could not predict writing performance. Likewise, productive of vocabulary was also found to not correlate well with writing nor with size and depth. Therefore, the authors concluded that lexical competence was key for a good writing performance.

Varnaseri and Farvardin (2016) also aimed to investigate the relationship between EFL learners' vocabulary knowledge (breadth and depth) and their writing performance. To this purpose, two test of vocabulary knowledge, VLT (size measure) and WAT (depth measure) and a writing performance task were administered to one hundred ten participants (postgraduate students) in three sessions. The analysis of the findings revealed that the quality of writing performance may have been predicted by depth and breadth of vocabulary, being depth the stronger predictor. In addition, this study showed a moderate relationship between breadth and writing performance which the author considered as result of participants' poor language instruction and among other factors.

Overall, authors suggested some pedagogical implications such as teachers should concentrate on designing a sufficient amount of both vocabulary depth and breadth tasks. Also, teachers should consider teaching vocabulary in two ways such as deepening and widening learners' vocabulary knowledge, and teachers should learn how to utilize language tests to observe learners' strengths and weaknesses in vocabulary knowledge.

3.4 Vocabulary knowledge and speaking performance (SP)

The importance of lexis for EFL oral production has been recognized as a vital component for fluency, to the degree to which vocabulary knowledge contributes to predicting speaking ability (Koizumi, 2005). However, Noro and Shimamoto claim that there have been few studies that examine the degree to which vocabulary knowledge affects speaking ability (as cited in Koizumi, 2005, p. 900). The following study suggest that

speaking variance can be explained by breadth and depth of vocabulary knowledge and advocates for the need of more empirical studies in this area.

In Japan, Koizumi and In'nami (2013), recruited intermediate-level EFL learners (below A1 to B2 level in the CEFR) to examine the relationship between L2 vocabulary knowledge and speaking proficiency. The research was divided into 2 studies and results were analyzed by the structural equation modeling (SEM), which researchers considered a better statistical system than regression analysis used in other studies.

Study 1 examined the relationship between size, depth and the speaking proficiency of 224 Japanese EFL learners. Vocabulary tests covered four aspects: size, derivation, antonym, and collocation; the three latter measured depth, and speaking proficiency was measured based on: fluency, accuracy and syntactic complexity. Similarly, fluency was divided into three dimensions: speed of fluency, repair fluency, and breakdown fluency. The findings suggested that learners with a wide range of vocabulary knowledge in terms of size, depth and speed were more likely to have a higher speaking proficiency and moreover to complete complex oral performances successfully. It was also found that the similarity of depth and size in predicting speaking proficiency could be generalized. Both size and depth could equally explain L2 proficiency. The authors supported this finding by claiming the difference in the instruments, the system and the analysis procedure used in this study.

Study 2 added speed to study 1 and analyzed 87 participants, all native Japanese speakers, at novice to intermediate level and one at C1 level. They performed three-based vocabulary tests and a telephone-based speaking test. The findings of this study revealed that speed could not explain L2 proficiency as size. Size could predict 63% of the variance, and was considered the powerful single predictor of L2 proficiency. The differences between the results of both studies, as the authors suggest, were hard to explain due to the fact that the studies differed greatly as well and the results may be restricted only to these studies.

3.5 Vocabulary knowledge on EFL general proficiency

Tahmasebi et al., (2013) carried out a study to examine to what extent Iranian EFL learners' general language proficiency and their knowledge of vocabulary depth and vocabulary breadth were related. To measure participants' proficiency, the Oxford Placement Test (OPT) was applied in two groups: lower-intermediate and upper-intermediate levels, with 40 subjects each. To gather data, the VLT to measure size, and the VKS to measure depth were applied. The results showed that depth and breadth were highly related with language proficiency in both groups and that depth could predict a higher variance in language proficiency. Therefore, the authors concluded that learners with a deeper knowledge of words performed better than those who knew more words.

Chapter IV

Methodology

This research analyzed several studies to examine the role of vocabulary knowledge in foreign language proficiency. The process of collecting and analyzing data followed the characteristics of a research synthesis, i.e., the conjunction of a particular set of literature review characteristics (Cooper & Hedges, 2009). In order to fully identify the research studies for the analysis, a deep search in databases such as ERIC (EBSCO), Google scholar and Research Gate was carried out. The search keywords included combinations of the following: (a) vocabulary knowledge, (b) proficiency, (c) EFL performance, (d) Speaking (writing, reading, listening) performance, (e) size of vocabulary, (f) depth of vocabulary. Complementary, an electronic research was conducted on the following journals: *Journal of Applied Linguistics*, *Language Teaching Research*, *Asian EFL Journal*, *International Journal of Teaching and Education*, *TESOL Quarterly*, and *Journal of English for Academic Purposes*. Moreover, the references of the selected articles were searched for additional studies.

4.1 Inclusion/exclusion criteria

Several studies concerning the role of vocabulary knowledge and EFL proficiency were identified and to determine whether they were relevant for the analysis, they had to meet the following criteria.

- a) The study must have been published in peer-reviewed journals. Peer review is seen as a crucial process to ensure that only high-quality research is published in reputable journals, by determining the validity, significance and originality of the study
(Harvey et al., 2019).

- b) The study must have been published between 2000 and 2018. This time frame represents a significant period of time to offer updated evidence about the topic.
- c) The study must have been conducted through empirical research. Empirical research examines the nature of the subject being observed and measured and its results contributes highly to the credibility of a theory (Weibelzahl & Weber, 2002).
- d) The study must have been carried out in an EFL context. EFL learners' proficiency is often linked to the mastery of vocabulary knowledge (Uchihara & Clenton, 2018). This present research synthesis focuses on foreign contexts due to the complexity of achieving proficiency in learning a new language as a foreign language.
- e) The study must have been focused in measuring the role of both size and depth of vocabulary knowledge in EFL proficiency. The distinction of the two constructs size/breadth and depth/quality of vocabulary knowledge is the most known and studied in the field (Schmitt, 2014). Thus, it is worthy to synthesize the plentiful current data in order to add information to the understanding of their relationship.

Studies were excluded because they fell into the following criteria:

- a) Studies that measured the impact of vocabulary knowledge from any aspect of students' affective domain towards the language. For example, studies that analyze student's perspective toward learning the language. The present research synthesis focused only on the impact of two dimension of vocabulary knowledge in EFL proficiency: size and depth on the four macro English skills (writing, reading, speaking, listening).
- b) Studies that were not published or appeared in non-academic sources. Information from these sources may be questioned.



- c) Studies that analyzed other language than English. Other language was excluded since English is considered the most widely learned language around the world and the main way of international communication (Maxom, 2009).

At the end, 15 articles met the established criteria and were included in the research synthesis. Studies were coded according to the commonalities among them and the analysis took place based on the following aspects: 1) the methodological features of the studies and 2) the features that contributed to answer the research questions proposed for this research synthesis.

Chapter V

Analysis

5.1 Analysis based on methodological features

According to Norris and Ortega (2006) the analysis of the methodological features from primary studies evidences how adequately the information was acquired and described because it is important to know what research has been done and also how it was done (Cottrell & McKenzie, 2010).

The methodological features taken into account for this analysis are: (a) research design, (b) data collection tools, and (c) participants' characteristics. To describe the range of research designs, studies were coded by features related to (a) quantitative and (b) qualitative designs. In regard to data collection tools, studies were coded according to (a) proficiency tests and (b) depth and breadth vocabulary tests. To describe the variety of learner's characteristics, the following study features were coded: (a) L1 of participants, and (b) reported proficiency level of participants.

5.1.1 Research design

Table 1

Research Design from Primary Studies

Research Design	N
Qualitative	0
Quantitative	15

The total of studies (100%) in this analysis used quantitative design. Such design is considered trustworthy in research as it allows validation and replication (Cottrell & McKenzie, 2010). Besides, results from quantitative design studies are free of bias, are

relatively generalizable if applied in large sample sizes, and can be compared across time (Brown, 2014). In research upon the relationship between vocabulary knowledge and EFL proficiency, quantitative design is the best option considering that it focuses on studying relationships, cause and effect, and quantitative predictions. Therefore, any existing theories and hypotheses, or new ideas are properly tested and validated (Brown, 2014).

5.1.2 Data collection tools

Table 2

Data Collection Tools Used in Primary Studies to Test Proficiency and Vocabulary Range

Proficiency assessment Test	n	Test for Breadth	n	Test for Depth	n
TOEFL	4	VLT	11	WAT	10
IELTS	3	VST	3	VKS	2
Cambridge	1	Experimenter constructed	1	PLT	1
Oxford	2			Experimenter Constructed Others	2
Experimenter constructed	3				
Others	2				

To measure dependent variables, the studies mostly used standardized tests: TOEFL (27%), IELTS (20%), Cambridge (7%) and, Oxford (13%). These tests are verified as tests with high validity and reliability, and they are quite suitable for measuring the overall proficiency of language learners (Baleghizadeh & Khaledian, 2016; Yuksel, 2015; Rashidi & Khosravi, 2010). On the other hand, three studies (20%) used experimenter constructed tests. Results of reliability and validity of these tests showed to be within the prescribed limits (Şen & Kuleli, 2015; Dabbagh & Enayat, 2019; Koizumi & In'nami). Lastly, 2 studies (13%) used governmental tests for English examination. They also proved to be reliable sources for research purposes (Harkio & Pietilä, 2016; Wang, 2015). In research, tests have to

undergone through validation (Chalhoub-Deville & Turner, 2000) and they are designed to cover appropriate proficiency levels and to assess a wide range of target-language situations so they can provide life like outcomes (Stæhr, 2009). Therefore, researchers should relate well not only with test administration but also with appropriate use and interpretation of test scores (Chalhoub-Deville & Turner, 2000) since they have to provide a general measure which is considered as English language ability (Chalhoub-Deville & Turner, 2000). Researchers in primary studies claim to be familiar with these particularities and therefore their rationale for their usage.

To measure independent variables, studies used the Words Associate Test (WAT) (67%) to measure depth and Vocabulary Level Test (VLT) (73.33%) to measure breadth of vocabulary knowledge with a slight variation for other tests. According to Meara (1996), VLT is “the nearest thing we have to a standard test in vocabulary. VLT was first developed by Nation and it is accepted and administered by a number of researchers for several reasons: it can be administered easily and within a short period of time, and unlike other standard multiple-choice tests, VLT reduces the chances of guessing (Farvardin, 2001). However, this test has been criticized for indicating shallow and superficial rather than deeper knowledge of individual words (O'Dell et al., 2000). Meara (1996) claims that the main problem in developing formal tests capable of producing reliable estimates in vocabulary size is based on the sampling method.

Vocabulary size tests are based on sample words taken from frequency lists, thus, getting an overall valuation of something large from a small sample lacks plausibility (Meara, 1996). The same author also claims that samples differ among each other since they depend on the number of words in frequency lists and of course they also depend on the author's approach towards what has to be counted as a word. In addition, the overlapping construct of the two measures, VLT and WAT, has been mentioned as well. Kameli et al., (2013) claim

that “the synonymy and polysemy that WAT measures are actually the basic word meaning that VLT requires” (p.183). In other words, WAT measures the same as VLT. This claim supports the view on vocabulary that size and depth should be considered a continuum instead of opposite sides (Vermeer, 2001). Disparity of results from primary studies support the claims aforementioned. Despite the high correlation between the two dimensions and the English skills, resolution upon which of the two dimensions is the principal contributor in performance is still unclear. Scores from WAT and VLT prove the role of vocabulary in English performance, but their correlation with scores of English performances show the lack of consensus in testing vocabulary and once again in defining vocabulary knowledge.

Therefore, it could be said that vocabulary knowledge test (depth and breadth) will measure what they are designed to measure, validating in this case any result.

5.1.3 Learners' characteristics

Table 3

Learners' Characteristics in Primary Studies

L2	n	L1 Context	n	Reported Proficiency	n	Setting	n
English FL	15	Persian	8	Intermediate (B1)	4	University	10
		Turkish	2	Upper and Intermediate (B2)	1	High School	2
		Danish	1	Advanced (C1-C2)	2	Mixed	1
		Finnish	1	Beginner and Intermediate	2	Other	2
		Chinese	2	Intermediate and Advanced	2		
		Japanese	1	Not reported	4		

Participants in primary studies depict a variety of features. Most of the studies, eight out of fifteen, were carried out in Iran where Persia is the official language. According to Mehrani and Khodi (2014), the reason behind this fact seems the growing demand for English

language education in both social and political contexts in the country. The same authors claim “English seems to have been smoothly integrated into the governing system, proving itself as an undeniable necessity, rather than a mere sign of Western culture.” (p.90).

Therefore, the professional and academic expansion of English within education has strongly encouraged research in English language teaching (ELT). Currently, in the country, periodicals regularly publish research papers conducted by Iranian applied linguists (Mehrani & Khodi, 2014). In sum, in the last decade Iran has been searching and publishing ELT-related research articles as any other country in the world. Therefore, it is not odd the origin of most papers analyzed in this study as most of the body research undertaken in Iranian universities has been published in a number of international journals such as TESOL Quarterly, Modern Language Journal, System, Language Testing, and International Journal of Applied Linguistics (Mehrani & Khodi, 2014).

Following the link above, regarding learners’ L1, only one study has reported that test-takers’ L1 may have influenced in their results. In regards to this claim, Lightbown and Spada (2013) mention that the more similar L2 and L1, the faster language acquisition. However, there is a lack of description relating this topic in the studies and this might be attributed to the fact that none of the studies’ focus was to research upon this issue. Studies strictly focused on measuring participants’ current proficiency level. Vocabulary knowledge acquisition and how it affects EFL proficiency deserves a paper itself. As to, participants’ proficiency levels of English, studies encompassed all the reference levels, from beginner to advance levels.

Most of studies do not mention how proficiency levels were determined but two studies which used standardized assessments: Oxford. Dabbagh (2016) claims that this test ensures the homogeneity of the sample in order to place participants in a specific level.

There is also no report of the reason to choose a certain level as sample nor primary studies reported the rationale to choose the setting. However, it could be said that two types of samples were considered, one with good lexicon and acceptable command of English (from intermediate to advance levels) and the other with limited knowledge of L2(beginners). Added to this, four studies (26%) did not report any proficiency level but a description of participants' instructional background, upon which a guessing of proficiency level might have been erroneous because there was a variety of factors that contributed in language assessment.

Based on what was previously mentioned, it is obvious that the main purpose of the primary studies was to prove the established hypothesis regardless the settings, participants' L1 and levels of English proficiency. All these characteristics were not taken into account in their studies.

This fact gives an explanation for the complete coverage of the English reference levels among studies and the consistently variance in results. As a result, there is no consensus among authors' reports, but a display of specific characteristics according the hypothesis being assessed in a certain level (beginners, intermediate, advance, etc.).

5.2 Analysis based on research questions

In this section, a synthesis of the findings from primary research are discussed in relation to the three research questions proposed for this research.

5.2.1 First research question

What is the reported impact of vocabulary knowledge on the four English skills?

Table 4

Vocabulary Dimensions Analyzed in Primary Studies

Dimension	n	(%)
Breadth and Depth	15	100

Total	15	100%
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The role of vocabulary knowledge in EFL proficiency was analyzed through 15 studies that searched upon the relationship among the two dimensions of vocabulary knowledge, breadth and depth, and the four English skills (writing, speaking, reading, and listening respectively). As previously mentioned, breadth and depth are the most representative dimensions from vocabulary knowledge where research has focused on and from which, regardless other dimensions, an overall sight of the whole concept can be offered (Milton, 2013). Consequently, it can be claimed that correlations between scores from vocabulary tests and standardized tests which were used to measure proficiency according to each skill, truly stands for overall EFL proficiency outcomes. The studies used in this synthesis display a particular rate over studies' subject matter as shown in the following chart.

Table 5

English Skills as Focus of Research

Focus of research	n	(%)
Listening	6	40
Reading	4	26
Writing	3	20
Speaking	1	7
General Proficiency	1	7
N	15	100%

The lack of studies relating writing (20%) and speaking (7%) is evident and also an interesting switch between the number of studies concerning listening and reading comes into view. According to Farvardin (2001), the influence of vocabulary in reading has had much more emphasis in research than any other skill and precisely this fact has led research to wide its scope to the others skills. As result, so far listening is the most studied skill in the field (40%). Furthermore, only one study measures EFL proficiency based only on vocabulary scores. This study met the inclusion criteria as it measured EFL proficiency through breadth and size even though it did not measure any skill. Results from this study might truly shed an important extra to this study in comparison with other studies, especially as they show a high degree of variance in results within each category.

5.2.1.1 Breadth and depth in listening comprehension

Table 6

Breadth and Depth as predictors of Listening Comprehension Performance

English Level	Better predictor	n	(%)
Intermediate	Depth	2	33.3
	Depth		
Upper-intermediate	Depth	1	16.6
Advanced	Breadth	1	16.6
Not specified	Depth	2	33.3
	Breadth		
		6	100%

Regarding listening comprehension, four studies (Farvardin & Valipouri, 2017; Wang, 2015; Teng, 2016 and Dabbagh, 2016) point out depth as the main predictor for better listening comprehension while the other two (Stæhr, 2009; Baleghizadeh & Khaledian, 2016) mention breadth. These differences might be attributed to several factors.

According to Farvadin and Valipouri (2017), who claimed depth as the main contributor to listening, data collection tools play an important role in studies. They

mentioned that as WAT and VLT mainly measure receptive and not productive knowledge of target words, it was possible that breadth and depth of vocabulary knowledge might have been considered as one same dimension. Therefore, being this fact one of the potential reasons as to why depth of vocabulary knowledge did not make a more substantial contribution to listening in Stæhr's study. This particularity known as multicollinearity appears when independent variables (breadth and depth) are highly correlated to the point of becoming one, which affects directly the variation of the dependent variable, listening (Wang, 2015). Therefore, researchers should first check the presence of multicollinearity among the independent variables (Wang, 2015). At this juncture, it is important to mention that neither Stæhr mentioned having checked the presence of multicollinearity in his study nor Farvardin.

Stæhr (2009) mentioned another issue when measuring vocabulary level in listening that might have affected his results. It is the fact that tests addressed knowledge in the written form of the word, whereas listening involves recognizing the spoken form of the word. By that means, the question is to what extent using a vocabulary test that involves knowing the written form instead of the phonological form of the words has an effect on the results (Stæhr,2009).

Besides, Wang (2015) and Stæhr (2009) report having used a different test to measure depth and Teng (2016) used Vocabulary Size Test (VST) instead of VLT to measure breadth. Taking this into account it can be stated that disparity in results among studies can be attributed not only to the lack of reliable tests that suit each skill respectively but also to the existence of different evaluation tools (Stæhr,2009). Some of them as mentioned previously, address vocabulary knowledge from different perfectives, the receptive or the productive one.

Another factor that might have influenced results is the amount of input participants have in studies. In Farvardin and Valipouri's (2017), participants lacked of exposure to a

more-varied language input in comparison to Stæhr's (2009). Evidently, results from both studies are different. Regarding this issue, Wang (2015) who searched the influence of breadth and depth over listening comprehension in students of three different levels, lower, middle and higher, found that breadth shows a gradual increase through levels while depth shows no difference. This author states depth as the strongest element for listening comprehension in all levels. Table 6 above supports this finding, as from six studies analyzed from beginner to intermediate levels, four studies reported depth as the main component while two studies, one with participants from an advanced level and the other with participants from lower and upper advance level, showed breadth as the main component.

Baleghizadeh and Khaledian (2016) supported that depth and breadth of vocabulary knowledge were not significant predictors of listening comprehension in the low listening ability group. However, breadth or size of vocabulary knowledge did provide a more significant contribution than depth to listening comprehension in students with higher level of knowledge. This can be explained by the fact that participants in their study were 117 junior university students majoring in English language and literature who by deduction might have been in an advanced English level. Therefore, as result, it can be assumed that breadth correlated better with listening comprehension in advanced levels while depth was a strong component for EFL learners in any stage.

5.2.1.2 Breadth and depth in reading comprehension

Table 7

Breadth and Depth in Reading Comprehension Performance

English Level	Better predictor	n	(%)
Intermediate	Depth	1	25
Intermediate-Advanced	Breadth	1	25
Advanced	Breadth	1	25

Not specified	Depth	1	25
		4	100%

Reading comprehension has been highly correlated with vocabulary knowledge, especially with breadth of vocabulary as the main component (Şen & Kuleli, 2015)

However, for the purpose of this study, only studies that meet the criteria which implied to analyze both dimensions by comparing their influence on reading were selected. From these, half of the studies (Şen & Kuleli, 2015; Rashidi & Khosravi, 2010) established depth as the main component for reading comprehension and the other half (Kameli, et al., 2013; Harkio & Pietilä, 2016) established breadth as the main component. Current literature accounts an undeniable relationship between breadth or size of vocabulary knowledge and reading comprehension: however, some studies have also aimed to study the relationship it has with depth or quality of vocabulary knowledge.

The analysis shows that some authors might support the lead of breadth in reading comprehension, but two studies claimed that the two dimensions should not have been considered anymore as separate constructs but as one (Kameli et al., 2013; Rashidi & Khosravi, 2010). In fact, they supported, both dimensions are interrelated and were inseparable as neither one could not make significant variance in reading score by itself (Kameli, et al., 2013).

The four studies within this category covered levels from intermediate to advanced level and the results suggested that -both dimensions- breadth and depth were extremely important to overcome difficulty in texts in lower levels than in advanced levels. Students in advanced levels might overcome reading without any problem because it is likely that advanced learners have a wide range of skills or reading strategies they can use besides their knowledge of vocabulary (Harkio & Pietilä, 2016). In consequence, based on these results, it can be inferred that in reading comprehension while size is strongly related to reader's

comprehension, depth also makes an equally strong contribution to reading performance because it provides more than a simply single definition of a word (Rashidi & Khosravi, 2010).

5.2.1.3 Breadth and depth in writing quality

Table 8

Breadth and Depth in Writing Performance

English Level	Better predictor	n	(%)
Intermediate	Breadth	1	33.3
Intermediate-Advanced	Depth	1	33.3
Not specified	Depth	1	33.3
		3	100%

Currently, studies have focused more in the relationship of vocabulary knowledge with the receptive skills e.g. reading and listening while little research has been conducted upon the productive skills e.g. writing and speaking (Dabbagh & Enayat, 2017). Being vocabulary the backbone of EFL learning (Milton, 2013), it seems crucial to analyze its contribution (breadth and depth) in writing performance. For this purpose, only three studies met the criteria. Two studies (66%) claimed depth as the main component for writing performance. The other study explained why breadth did not contribute to writing as it was expected. Yüksel, (2015) stated that participants had limited vocabulary knowledge and that it mostly consisted of frequent words. Farvardin (2016) also mentioned that the participants had a poor English instruction which latter was evidenced by the vocabulary test results which showed not only having limited breadth of vocabulary, but also limited depth. On the other hand, Dabbagh and Enayat (2017), who analyzed the influence of the two dimensions upon descriptive writing in intermediate-level learners stated breadth as the main component for writing, and also the authors mentioned the importance of teaching mid-frequency

vocabulary for effective language use. This author claims that to intermediate-level students, breadth is the key. Therefore, it might be deduced that writing is indeed related with both dimensions and that breadth is essential in early stages of EFL acquisition. However, further research must be carried out relating to this issue as it is not fully clear what the role of depth in writing is.

5.2.1.4 Breadth and depth in speaking fluency

Table 9

Breadth and depth in Speaking Performance

English Level	Dimension Analyzed	n	(%)
Beginner-Intermediate	Breadth	1	100
		1	100%

In regards to the speaking skill, only the study conducted by Koizumi and In'nami (2013) met the criteria. In their study, results showed that size, depth, and speed in speaking proficiency were the main components for speaking fluency. Additionally, although this research showed that speaking proficiency could be effectively predicted by vocabulary knowledge, further experimental studies are necessary to examine whether enhancing vocabulary knowledge actually leads to an increase in speaking proficiency.

The authors also suggested that while this research presented evidence that vocabulary knowledge explained speaking proficiency, the results may have been restricted to the design of the study. As a result, future research should include more aspects relating to the speaking ability and take into account suitable research design.

5.2.1.5 Breadth and depth in general EFL proficiency

Following with the analysis, the last article reported the influence of breadth and depth of vocabulary in EFL proficiency, but it did not relate to any skill. It is well known



that in EFL environments, proficiency is often measured according to student's performance in the four skills (Milton,2013). However, vocabulary alone is also considered as a “predictor of general proficiency in a foreign language” (Milton, 2013, p.67). Besides, even though it is not related to any specific skill, it has been taken into account as it does meet the criteria of selection. This study claims depth as the main component for general EFL proficiency.

Tahmasebi et al., (2013) stated that learners who had a deeper knowledge of words did better in tests than those who knew more words and that students at high levels would have greater depth of vocabulary than those at lower levels. Nevertheless, these results might depend on learners' language proficiency levels. For this reason, the authors also stated that due to the interrelatedness of breadth and depth, further research should be conducted. Considering this claim, this study infers that the overlapping construct between these two dimensions represent a significant issue in the field and before any research into vocabulary and proficiency takes place, a clear definition upon whether to consider breadth and depth as continuum or as two separate constructs must be carried out.

5.2.2 Second research question

What are the reported aspects regarding EFL proficiency that vocabulary knowledge influences?

This analysis shows the significant contribution of breadth and depth of vocabulary knowledge to the learners' performance in the four macro skills and also that both are strong predictors of EFL proficiency. According to the studies reviewed, results evidenced the influence of breadth and depth in EFL proficiency depended on learners' English level, measurement tools or any other factor might have contributed to the results such as the researcher's point of view on vocabulary knowledge. It is well-founded, thus, to say that studies revealed performance based on their participants' level. Milton (2013) supports that

“language knowledge, such as vocabulary knowledge, will develop in relation to language performance” (p. 63). Consequently, it is understood that a requirement for making progress in communicating through a foreign language is acquiring greater volumes of vocabulary and acquiring control in the use of this vocabulary (Milton, 2013).

Therefore, vocabulary depth and breadth are essential for EFL competence as both dimensions, breadth and depth, help to overcome difficulty in text (Kameli et al., 2013), to understand and display ideas better (Dabbagh & Enayat, 2017; Farvardin & Valipouri, 2017), and to improve communicative skills (Koizumi and In'nami, 2013).

5.2.3 Third research question

What are the reported pedagogical implications that might contribute to vocabulary teaching and learning in an EFL classroom?

Vocabulary breadth and depth influence listening, reading, writing, and speaking scores significantly. Results suggest that the teachers' main role is helping students realize the importance of vocabulary for their proficiency (Şen & Kulelia, 2015). First, EFL classrooms should pay attention to what should be taught. Teachers might consider drawing attention to the accumulation and mastery of frequent words in lower levels and to academic words at higher levels alongside with variety in context (Wang, 2015; Baleghizadeh & Khaledian, 2016). Vermer (2001) claims that meaningful encounters as well as frequency with the word are crucial to master vocabulary. In a general view, at any level, attention to teach high frequency vocabularies should be crucial for the teacher and institute's course syllabus (Baleghizadeh & Khaledian, 2016). Moreover, in an EFL classroom, vocabulary teaching also should appropriately lean on vocabulary depth (quality of word knowledge) rather than only on vocabulary size (quantity of words). Students should not only know the literal meaning of words but also the role the word performs in each context (Wang, 2015). Şen and Kuleli (2015) support that “curriculum developers and course book writers should

attach as much importance to depth of vocabulary as they do to size of vocabulary for EFL contexts” (p.561). EFL teachers, then, should design their lessons in a way that students learn vocabulary items they are exposed to in their depth (Şen & Kuleli, 2015). Finally, EFL classrooms should focus on how vocabulary needs to be taught since teachers often do not know where the instructional emphasis on word learning should start during class (Alqahtani, 2015).

Chapter VI

Conclusion and Recommendations

6.1 Conclusions

This study clearly points out that vocabulary knowledge in its two dimensions size and depth is one of the cornerstones to EFL proficiency. Regarding whether depth or breadth is the main component, results showed that the main component for performance could vary according to test tools and participants' language proficiency level. It was also evident that vocabulary knowledge represents an essential piece to lower-level EFL learners while they acquire the language. On the other hand, at higher levels the boundary between breadth and depth might disappear. Then, considering these as two separate constructs with advanced students seems to have no use. Additionally, it should be noted that variance in studies might be attributed to the lack of suitable vocabulary tests. Due to the familiarity and reliability of current vocabulary tests, most of the studies did not consider any other measurement tools. As a result, many aspects in the relationship between the English skill and both size and depth of vocabulary were not taken into account. For instance, vocabulary was mostly measured as passive knowledge, giving little or no priority to its productive features. Research in vocabulary knowledge, then, not only faces disagreement on establishing an appropriate definition but also difficulty in being measured.

Additionally, the results on vocabulary knowledge and EFL proficiency suggest the importance of teaching mid-frequency vocabulary in order to develop proficient writing skills. Also, raters should put more attention to word association rather than to lexical sophistication in writing assessments as some results (Varnaseri & Farvardin, 2016; Yuksel, 2015) showed that depth contributed highly to writing performance. In line with this argument, depth of vocabulary knowledge also proved to have contributed significantly to reading and listening performance. Two studies out of four for reading (Şen & Kuleli, 2015; Rashidi & Khosravi, 2010) and four (Farvardin & Valipouri, 2017; Wang, 2015; Teng, 2016; Dabbagh, 2016) out of six studies for listening showed that depth should receive much more consideration than it has had before. Therefore, it is safely to draw the implication that there is a need of including depth of vocabulary knowledge more into EFL vocabulary learning and teaching.

On the other hand, vocabulary size proved to be the better predictor in speaking. A considerable degree of speaking proficiency could be explained by size alone, but as only one study relating speaking was analyzed, this conclusion might be restricted only to it and cannot be generalized (Koizumi & In'nami, 2013).

Moreover, results from studies showed that both depth and breadth of vocabulary knowledge are highly correlated to each other but results did not show conclusively which variable predict the other one. This means there is no consensus on which one is the better predictor for EFL proficiency but rather both are mentioned as crucial for achieving proficiency and for predicting performance. Regarding to this, Şen and Kuleli (2015) support that “students knowing a lot of vocabulary items also know those items more deeply” (p. 560). Based on this stance, it may also be possible to conclude that EFL teachers should expose students to as many vocabulary items as possible so that their comprehension level

will develop. Şen and Kuleli (2015) about this claim “teachers should determine the vocabulary to be taught in line with their purpose in EFL contexts” (p. 561)

Furthermore, it is worth mention that even though most of the studies analyzed in this research showed the importance of depth, vocabulary size is highly recognized in listening and reading. What is more, the relationship between vocabulary size and listening comprehension are considered similar to that of vocabulary and reading; that knowing a large number of words will provide the learner with a large lexical coverage of any given text and so the learner will achieve adequate comprehension. Thus, vocabulary size alone could still be regarded as a significant feature in learners’ listening and reading comprehension. Stæhr (2009) suggests that in order to have 80% comprehension of a spoken text, it would require a lexical coverage of 99% which means knowledge of as much as 10,000-word families in English. Sather also mentions that at some extent, it would be similar in reading comprehension.

This close relationship between listening and reading highlights another important feature on measuring the influence of vocabulary knowledge in EFL proficiency, the use of adequate measurement tools regarding each macro skill. As mentioned previously, only current vocabulary and proficiency measurement tools were used in studies due to their familiarity and reliability. All the studies that measured listening proficiency used an orthographic rather than a phonological measurement tool. In his study Stæhr (2009) claims that using an orthographical measurement tool to measure listening could have had some influence in results. From which, it might be plausible to conclude that the relationship between orthographic and phonological vocabulary knowledge and listening is not clearly determined as one might think.



Lastly, some pedagogical implications could be drawn from primary studies' results. First, teachers should concentrate on designing a sufficient amount of both vocabulary depth and breadth tasks in order to help learners increase their vocabulary knowledge and produce reasonable outcomes. Second, teaching vocabulary should focus towards deepening and widening learners' vocabulary knowledge. Third, teachers can learn how to utilize language tests to observe learners' strengths and weaknesses in vocabulary knowledge. This approach will give teachers a better perspective in designing the students' curriculum or lesson plan.

6.2 Limitations and Further research

Similar to any other study, the outcomes of the current study are influenced by limitations. There is one main limitation identified in the present: the lack of studies for analysis regarding writing and speaking. Only few studies respectively met the established criteria. If there were more articles, a more complete analysis could have been done.

Future research may focus on establishing a clear understanding on the relationship between breadth and depth. Should they be considered as independent dimensions or as a continuum? Moreover, even though reliability of current vocabulary test tools has been provided, research should focus on analyzing new vocabulary measurement tools in order to discover or create a better and a broader way of assessments for vocabulary depth and breadth in both their passive and productive views. In addition, research might be also conducted on the effectiveness of proficiency test tools so that they can relate appropriately with the skill being measured. Should listening comprehension be assessed exclusively through a written format test? A more skill inclusive evaluation tool might be useful. Finally, research should take place in EFL classroom in order to analyze current and new vocabulary teaching/learning strategies. Updated information related the issue is always critical for EFL classrooms.

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Appendix 1

List of Primary Studies for Analysis

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